

V. REMARKS

Claims 1-5 are rejected under 35 USC 102 (b) as being anticipated by Kohler (U.S. Patent No. 5,343,709). The rejection is respectfully traversed.

Kohler teaches a cryopump that includes a housing in which is mounted a cooling head having a first, 80°K. cooling stage and a second, 20°K. cooling stage. A shield mounted on the cooling head surrounds the two stages and a cooling surface within the housing and within the shield surrounds the second stage. The housing and the shield include corresponding inlet openings for admitting gases and a diaphragm protects the cooling surface from heat radiation entering the inlet openings. The diaphragm is closer to the cooling surface than is the shield creating a transfer opening that permits free access of gases into the volume within the shield. The cooling head can be rotated by an adjustment motor to displace the shield inlet opening with respect to the housing inlet opening to control the suction capacity of the pump for process gases without the need for an additional reduction valve while maintaining the capacity for processing water vapor.

Claim 1, as amended, is directed to a cryo pump that includes a cryogenic refrigerator, a first-stage panel, a generally cylindrically-shaped heat shield plate, both of which are cooled in a first stage of the cryogenic refrigerator, a second-stage panel that is surrounded by the heat shield plate and is cooled by a second stage of the cryogenic refrigerator with an absorbent. Claim 1 also recites that the cryo pump also includes a notch, provided in and extending circumferentially about the heat shield plate, for allowing for entrance of gas molecules and an additional shield disposed apart from the heat shield plate and adjacent the notch for preventing entrance of heat due to radiation from a room-temperature cryo pump chamber to the second-stage panel. Further, claim 1 recites that the additional shield being sized relative to the notch such that the gas molecules outside the second-stage panel meander through the notch and around at the additional shield in order to enter into the second-stage panel.

It is respectfully submitted that the rejection is improper because the applied art fails to teach each and every element of claim 1 as amended. Specifically, it is respectfully submitted that the applied art fails to teach a generally cylindrically-shaped heat shield plate and a notch, provided in and extending circumferentially about the heat shield plate. Furthermore, it is respectfully submitted that the applied art also fails to teach an additional shield disposed apart from the heat shield plate and adjacent the notch. Additionally, it is respectfully submitted that the applied art also fails to teach that the additional shield is sized relative to the notch such that the gas molecules outside the second-stage panel meander through the notch and around at the additional shield in order to enter into the second-stage panel. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Support for the “meandering” feature of claim 1 is found in the specification on page 8 in paragraph 2 referring to Arrow B in Figure 2 as well as on page 10 in paragraph 2 referring to Arrow D in Figure 6.

Claims 2, 3, 5 and 7-9 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claims 1-5 are rejected under 35 USC 102 (e) as being anticipated by Peterson (U.S. Patent No. 4,611,467). The rejection is respectfully traversed.

Peterson discloses a cryopump includes a cold first stage and a colder second stage, a second stage cryopanel, a radiation shield surrounding the second stage and a first stage orifice plate closing the radiation shield. The orifice plate has a plurality of orifices therein for allowing restricted flow of gas into the radiation shield to the second stage cryopanel. At least one of the orifices is closed by a removable closure secured to the orifice plate at the closed orifice. The closure can be a spring clip. Also, the orifices can be circular and the closure includes a circular plate having bent spring legs

extending generally normal thereto which legs press outwardly against the edge of a circular orifice to secure the closure plate against the orifice plate after the spring legs are forced into the orifice.

As mentioned above, it is respectfully submitted that the rejection is improper because the applied art fails to teach each and every element of claim 1 as amended. Specifically, it is respectfully submitted that the applied art fails to teach a generally cylindrically-shaped heat shield plate and a notch, provided in and extending circumferentially about the heat shield plate. Furthermore, it is respectfully submitted that the applied art also fails to teach an additional shield disposed apart from the heat shield plate and adjacent the notch. Additionally, it is respectfully submitted that the applied art also fails to teach that the additional shield is sized relative to the notch such that the gas molecules outside the second-stage panel meander through the notch and around at the additional shield in order to enter into the second-stage panel. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claims 2, 3, 6, 8 and 9 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claims 4, 5 and 7 are rejected under 35 USC 103 (a) as being unpatentable over Peterson in view of Kohler. The rejection is respectfully traversed.

Claims 4, 5 and 7 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

It is respectfully submitted that the pending claims are believed to be in condition for allowance over the prior art of record. Therefore, this Amendment is

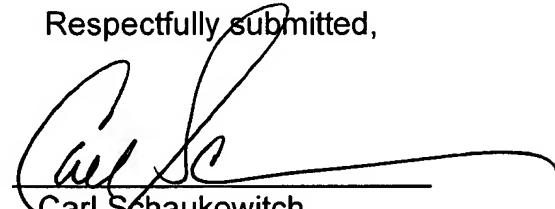
believed to be a complete response to the outstanding Office Action. Further, Applicants assert that there are also reasons other than those set forth above why the pending claims are patentable. Applicants hereby reserve the right to set forth further arguments and remarks supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

By:



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Enclosure(s): Amendment Transmittal

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